

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Robert L. Bradley

Art Unit: 1761

Serial No. 10/074,870

Examiner: Leslie A. Wong

Filed: February 13, 2002

Confirmation No.: 6804

For: *Method for Making Cheese Having Reintroduced Fine Particles of Cheese*

Attorney Docket: 282.016

Customer No.: 23598

RULE 132 DECLARATION OF ROBERT L. BRADLEY

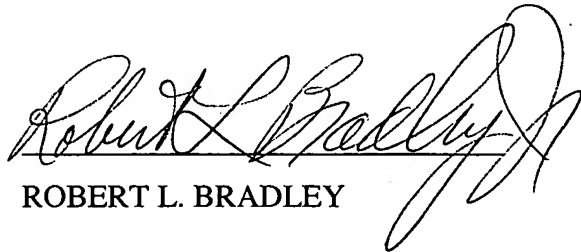
I, ROBERT L. BRADLEY, the undersigned Declarant, do hereby state and declare that:

1. I am intimately familiar with the invention described and claimed in the above-identified patent application (the '870 application). I am the inventor of the invention described and claimed therein.
2. From 1964 to the present, I have been a Professor of Food Science at the University of Wisconsin-Madison. I received my B.S. in Dairy Technology from the University of Massachusetts, Amherst in 1958. I received my M.S. in Food Science from Michigan State University in 1960. I received my Ph.D. in Food Science from Michigan State University in 1964. My *Curriculum vitae* is attached hereto as Exhibit A and incorporated herein by reference. I am one skilled in the art of the instant patent application.
3. I am familiar with the contents of the '870 application. I have read the Examiner's Office Action of January 2, 2004 and the Lehmann et al. and Kosikowski references cited by the Examiner in the Office Action.
4. In the Lehmann et al. patent, fine particles are heated. It is my technical opinion, based on my knowledge of the cheese making industry, that heating will shrink the fine particles, which will *decrease* the total surface area of the fine particles.

5. In contrast, practicing my invention as recited in amended claim 2 and independent claim 48 in the above-referenced patent application will cause the total surface area of the fine particles to increase.
6. In the Lehmann et al. patent, there is an optional step of clarifying the cheese fines before they are mixed with a medium, such as milk or another dairy product. From this, it appears that in the Lehmann et al. process there is a problem with the cheese fines settling out.
7. In contrast, claims 5 and 6 of the above-referenced patent application require "wherein the mixing step comprises inhibiting the fine particles of cheese curd from settling out of the subsequent lot of milk." In the practice of my invention, no clarifying step that is separate from the mixing step is required.
8. The Lehmann et al. patent describes a method of making rennet-based cheese, which does not require washing cheese curd with water.
9. In contrast, claim 14 of the above-referenced patent application requires "further comprising washing the curds with a wash water, wherein the wash water contains fine particles of cheese curd; and collecting the fine particles of cheese curd from the wash water." Nowhere does the Lehmann et al. patent discuss any washing step of cheese curd.
10. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like

so made are punishable by fine or imprisonment, or both, sunder Section 1002 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this Rule 132 Declaration is directed.

Dated: 20 April 2004


ROBERT L. BRADLEY

ROBERT LESTER BRADLEY, JR.

BORN

January 14, 1933, Beverly, Massachusetts

PRESENT ADDRESS

4704 Sumac Road, Middleton, WI 53562

EDUCATION

BS -Dairy Technology, University of Massachusetts, Amherst, 1958
MS -Food Science, Michigan State University, East Lansing, 1960
PhD -Food Science, Michigan State University, East Lansing, 1964

PROFESSIONAL EXPERIENCE

Assistant Professor, University of Wisconsin, 1964-1969
Associate Professor, University of Wisconsin, 1969-1974
Professor, University of Wisconsin, 1974-2001
Professor Emeritus, University of Wisconsin, 2001-present

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Dairy Science Association
Association of Official Analytical Chemists, International
International Association for Food Protection
Wisconsin Dairy Technology Society

MILITARY SERVICE

U.S. Army active duty from 1953-1955
Enlisted reserve 1955-1962
Honorable discharge 1962

HONORS

Wisconsin Dairy Products Association President's Award, 2001
Fellow of AOAC, 1996
Alfa Laval Agri Award in Dairy Extension, ADSA, 1994
General Referee of the Year, AOAC, 1994
Advisor Award of Merit, CALS-UW, 1989
Distinguished Alumni Award in Food Science, Michigan State University, 1987
Milk Industry Foundation Teaching Award in Dairy Manufacturing, ADSA, 1981

EXHIBIT

A

UW INSTRUCTIONAL RESPONSIBILITIES

A. Courses taught in the Food Science Department:

- FS 310 - Analysis of Food Products, 4 credits, lecture and lab. Application of quantitative techniques to the determination of composition and quality of food products.
- FS 415- Dairy Foods I; Market Milk, Butter and Special Products, 3 credits, lecture and lab. Procurement, processing and distribution of market milk and related products; manufacture of butter and related products; equipment operations, management of processing plants, plant sanitation, laboratory procedures.
- FS 421- Dairy Foods II; Ice Cream, Concentrated and Dried Milks, 3 credits, lecture and lab. Manufacture of ice cream, ice milk, sherbets, ices, concentrated milks, dried milks and related products. Equipment operation, quality factors, defects, plant sanitation and management, laboratory practices.
- FS 699- Dairy Products Judging Team coach.

B. Other teaching responsibilities:

Lectures given in: Farm Short Course on Dairy Products Manufacture.

UW EXTENSION RESPONSIBILITIES

- A. Directing the set-up of dairy laboratories for certification on a Grade A program
- B. Advising many dairies on methods to improve product quality and shelf-life and the design of new products.
- C. Analytical service to food companies needing this assistance
- D. Advising many dairy and food companies on HACCP set-up
- E. Instructional activities:
- Short courses - Cheesemaking, Dairy Plant Fieldmen, Pasteurization and Process Control, Ice Cream Making, Cheese Grading, Analysis, Dairy Chemistry, Basic Bacteriology, Improved Ice Cream Retailing.
- F. Secretary of Wisconsin Dairy Technology Society

CURRENT DEPARTMENTAL COMMITTEE RESPONSIBILITIES

Dairy Plant Advisory Executive Committee, ex officio and advisor

PUBLIC SERVICE

- A. Chairperson of Dairy Advisory Committee - WI Department of Agriculture, Trade and Consumer Protection
- B. General Referee for Dairy Chemistry for AOAC.
- C. Chairperson of Joint Action Team on Quality Assurance and Proficiency Testing Committee, (Formerly E302), International Dairy Federation.
- D. Member of Editorial Board of Journal of AOAC, International.
- E. Member of Editorial Board of Dairy food and Environmental Sanitation.
- F. 3-A Standards Committee, ADSA. representative, member Steering Committee.

CURRENT RESEARCH PROJECTS

- 1. Physical structure of low fat ice cream
- 2. Characterization and functionality of whey protein stabilizer complexes.
- 3. Extension of shelf-life of fluid milk by microbiological control
- 4. Cleanability of various stainless steel surfaces

PUBLICATIONS

1962

Bradley, R.L., Jr., L.G. Harmon and C.M. Stine. Effect of potassium sorbate on some organisms associated with cottage cheese spoilage. *J. Milk Food Technol.* 25:318-323.

Bradley, R.L., Jr. and C.M. Stine. A simple device for obtaining samples of headspace gas directly from sealed containers for analysis by gas chromatography. *J. Dairy Sci.* 45:1259.

1963

Bradley, R.L., Jr. and C.M. Stine. Spray-drying of natural cheese. *Manufactured Milk Prod. J.* 54(11):8-9, 40-42.

1964

Bradley, R.L., Jr. and C.M. Stine. Foam spray-drying of natural cheese. *Manufactured Milk Prod. J.* 55(6):8-11.

1965

Bradley, R.L., Jr. Spray-drying of natural cheese. *Diss. Abstr.* 26:1585.

1968

Li, C.F., R.L. Bradley, Jr. and T. Richardson. Improved extraction of chlorinated hydrocarbon pesticides from animal tissues. *Bull. Environ. Contamin. Toxicol.* 3:317-321.

Bradley, R.L., Jr. and C.F. Li. The effect of dieldrin on acid development during manufacture of Cheddar cheese. *J. Milk Food Tech.* 31:202-203.

Bradley, R.L., Jr. and C.M. Stine. A gas chromatographic study of the volatile flavors in natural and spray-dried Cheddar cheese. *J. Gas Chromatog.* 6:344-348.

1969

Bradley, R.L., Jr. Milk. In D.N. Lapedes (ed.) *McGraw-Hill Encyclopedia of Science and Technology*. McGraw-Hill Book Co., 330 West 42nd Street, New York, NY. pp. 499-510.

Mahdi, S.R. and R.L. Bradley, Jr. Fat destabilization in frozen desserts containing low dextrose equivalent corn syrups. *J. Dairy Sci.* 52:1738-1741.

Li, C.F. and R.L. Bradley, Jr. Degradation of chlorinated hydrocarbon pesticides in milk and butteroil by ultraviolet energy. *J. Dairy Sci.* 52:27.

1970

Minor, T.E., E.H. Marth, N.F. Olson, T. Richardson, W.E. Hantke, R.L. Bradley, Jr. and H.E. Calbert. Microbiology and chemistry of 105-year-old cheese. *J. Dairy Sci.* 53:1795-1801.

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Mahdi, S.R. and R.L. Bradley, Jr. Ice cream and ice milk--churning of milkfat made with low dextrose equivalent corn sweeteners. *Dairy Ice Cream Field* 153(1):140, 142, 144, 146.

1971

Abdul-Rahman, Y.A.K., E.J. Crosby and R.L. Bradley, Jr. Drying of single drops of foamed and nonfoamed sodium caseinate solutions. *J. Dairy Sci.* 54:1111-1118.

Rehfeld, B.M., R.L. Bradley, Jr. and M.L. Sunde. Toxicity studies on polychlorinated biphenyl in the chick. 1. Toxicity and symptoms. *Poultry Sci.* 50:1090-1096.

Hekmati, M. and R.L. Bradley, Jr. Degradation of organochlorine pesticides with hydrogen peroxide. *Milchwissenschaft* 26:224-226.

Huginin, A.G. and R.L. Bradley, Jr. Distribution of organochlorine pesticides among some milk components. *J. Dairy Sci.* 54:355-359.

1972

Hantke, W.E. and R.L. Bradley, Jr. Effect of dieldrin on bacteria producing lactic acid. *J. Milk Food Tech.* 35:655-658.

Bradley, R.L., Jr. Milk and Milk Products. In F.D. Snell and L.S. Ettore (ed.) *Encyclopedia of Industrial Chemical Analysis*. Vol. 16. John Wiley and Sons, Inc., New York, NY. pp. 123-149.

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1973

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1975

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Huginin, A.G. and R.L. Bradley, Jr. Exposure of many to mercury--A review. II. Contamination of food and analytical methods. J. Milk Food Technol. 38:354-368.

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1976

Roh, J.K., R.L. Bradley, Jr., T. Richardson and K.G. Weckel. Distribution and removal of cadmium from milk. J. Dairy Sci. 59:376-381.

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1977

DeBeukelar, N.J., M.A. Cousin, R.L. Bradley, Jr. Modification of milk proteins by psychrotrophic bacteria. J. Dairy Sci. 60:857-861.

1979

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Hekmati, M. and R.L. Bradley, Jr. Utilization of acid whey in frozen yogurt. Cultured Dairy Products J. 14(2):6-7.

1980

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1981

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1983

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1984

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1986

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1990

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1991

Bohner, H.F. and Bradley, R.L., Jr. 1991. Corrosivity of chlorine dioxide used as a sanitizer in ultrafiltration systems. *J. Dairy Sci.* 74:3348-3352.

Bradley, R.L., Jr. 1991. Tests you should be running in your milk monitoring program. Proceedings - CDR Cheese Research and Technology Conf., March 6-7.

Bradley, R.L., Jr. 1991. Removing cholesterol from milkfat using supercritical carbon dioxide. In C. Haberstroch and C.E. Morris, *Fat and Cholesterol Reduced Foods: Technologies and Strategies*. Adv. Appl. Biotechnol. Series 12:221-232.

Gruetzmacher, T.J. and Bradley, R.L., Jr. 1991. Acid whey as a replacement for sodium caseinate in spray-dried coffee whiteners. *J. Dairy Sci.* 74:2838-2849.

Donhowe, D.P., R.W. Hartel and R.L. Bradley, Jr. 1991. Determination of ice crystal size distributions in frozen desserts. *J. Dairy Sci.* 74:3334-3344.

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1992

Bohner, H.F. and R.L. Bradley, Jr. 1992. Effective Cleaning and Sanitizing of Polysulfone Ultrafiltration Membrane Systems. *J. Dairy Sci.* 75:718-724.

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1993

Bradley, R. L., Jr., E. Arnold, Jr., D.M. Barbano, R.G. Semerad, D.E. Smith and B.K. Vines. 1993. Chemical and Physical Methods (Chapter 15). In R.T. Marshall (ed.) *Standard Methods for the Examination of Dairy Products*, 16th ed., p. 433-531.

Bradley, R.L., Jr., 1993. Cholesterol removal from milkfat. In *Newsletter of IDF* (No. 139, Suppl.) Special Addresses. p. 23-34.

Wendorff, W.L., R.M. Kaiser, and R.L. Bradley. 1993. Freezing point impacts on quality premiums. UW Dairy Alert, Dec. 1, 1-8.

1994

Gruetzmacher, T.J. and R.L. Bradley, Jr. 1994. Improving Milk Quality with Existing Equipment. UW Dairy Pipeline 6(4): 1, 6-7.

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1995

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1997

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1998

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1999

Gruetzmacher, T.J. and R.L. Bradley, Jr. 1999. Identification and control of processing variables that affect the quality and safety of fluid milk. *J. Food Protect.* 62:625-631

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2000

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